

Unravelling a ‘miner’s myth’ that environmental contamination in mining and smelting towns is naturally occurring

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Ore extraction and processing have resulted in elevated levels of toxic metals surrounding mining and smelting operations, causing adverse health effects, particularly in children. Resource companies, government agencies and employees often construct ‘myths’ to down play potential exposure risks and responsibility arising from operating emissions. Typical statements include: contaminants are naturally occurring, the wind blows emissions away from residential areas, contaminants are not bioavailable, or the problem is a legacy issue and not related to current operations. In mining towns, the default and primary defence against contamination is that elevated metals in adjacent urban environments are ‘naturally occurring’. Not only is this a difficult scientific argument to unravel, it also causes confusion and delays remediation work, hindering efforts to reduce harmful exposures to children.

This issue has stymied cleanup programs in Broken Hill and Mount Isa, where major lead–zinc–silver ore bodies have been mined continuously for over 130 and 90 years, respectively. In this talk, a multiple lines of evidence approach will be applied to unravel what we term is a ‘miner’s myth’. In supplementing contemporary site-based soil metal data and lead isotopic composition data, the talk will examine geological data, historical environmental assessments and old photographic evidence to understand what the preponderance of evidence reveals about the source and cause of contamination.

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